# **EXHIBIT 6**



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#### \*423 "SPECULATIVE" ANTITRUST DAMAGES

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Abstract: The most important antitrust penalties are treble damage awards based on the individual harms that violations cause. For these penalties to function as an economically rational deterrent, there must be a practical mechanism for proving individual harm, and for distinguishing such harm from "speculation." In this article, the authors present an account of that mechanism. First, they argue that the law's measure of antitrust damages is based on a standard of net individual harm that is qualified in certain cases by a principle of net social harm. Net harm is measured by the difference between the plaintiff's actual condition (given that the violation has occurred) and its but-for condition (assuming that the violation did not occur). Second, the authors show that law's mechanism for proof of damages requires a projection of the but-for condition from a reasonably comparable base experience. The projection must use both the evidentiary foundation and a theoretical model to isolate the defendant's illegal conduct as the difference between the actual and but-for conditions. Proof is speculative if the projection fails to account for actual or theoretical factors other than the violation that may have caused the asserted harm.

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#### \*424 I. INTRODUCTION

Much of the scholarly discussion of antitrust damages in recent years has focused on the problem of reconciling the private damage action with the public purpose of the antitrust laws. The treble damage remedy is based on private harm to individual economic actors, [FN1] yet it is designed to enforce the public policy of promoting competition. [FN2] Because the private harm and hence the potential damages that a violation causes may far exceed any harm to competition, the treble damage remedy creates a danger of overdeterrence. Consequently, the courts have formulated the doctrines of antitrust injury and standing to limit the types of harms that are compensable and the classes of plaintiffs who may sue. [FN3] We have suggested in our earlier work that these doctrines are best understood as judicial efforts to shape antitrust damages to approximate an optimal penalty—one that minimizes the costs of overdeterrence and underdeterrence. [FN4]

\*425 Any practical adaptation of the private damage remedy to antitrust policy requires an effective mechanism for the proof of individual harm. Courts cannot shape damages to approximate an optimal penalty unless they can calculate individual harm with reasonable accuracy. If, on the other hand, courts can determine the individual harm from the offense, they can apply the doctrines of antitrust injury and standing so that the sum of the compensable harms approximates the optimal measure of damages. In our work on antitrust damages up to now, we have generally assumed that a mechanism for calculation and proof of individual harm exists. In this article, however, we examine a central feature of that mechanism, the court's standards of certainty for proof of damages. Although we refer to antitrust injury and standing in the next part, we will generally set to one side the complexities of approximating the optimal penalty in order to focus on the question of proving individual damages.

The standards of proof for antitrust damages are easily stated in the abstract. A plaintiff must prove that it was injured by the antitrust violation and by how much. To establish the fact of injury, or "impact," from an antitrust offense, a plaintiff must prove, "with reasonable certainty," a causal relation between the defendant's violation and the plaintiff's harm. [FN5] The plaintiff's burden in establishing the amount of the injury is somewhat lighter: "I t will be enough if the evidence show the extent of the damages as a matter of just and reasonable inference." [FN6] In other words, once the plaintiff establishes the fact of damage or injury with reasonable certainty, the jury may "make a just and reasonable estimate of the damage based on relevant data." [FN7] The Supreme Court has justified the more relaxed standard for proving the amount of damages \*426 by reasoning that the wrongdoer should bear the costs associated with uncertainty in proving damages. [FN8]

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Courts typically label insufficient proof of antitrust damages as "speculative." [FN9] Our goal in this Article is to identify the determinants of this common characterization. [FN10] The familiar standards recited in the last paragraph tell us little about this question. We have instead tried to find the content of the idea of speculativeness by discovering underlying patterns in the courts' uses of the term. Our goal is not merely descriptive, however. We also emphasize the role of economic theory in guiding the damages inquiry. In particular, we suggest that economics plays a central role in the analysis of the consequences of illegal practices, the identification of causal factors, and the evaluation of the plaintiff's proof.

We first consider the law's measure of antitrust damages. The plaintiff must show that the defendant's illegal conduct prevented the plaintiff from doing better than it actually did. The plaintiff must therefore project a hypothetical or "but-for" condition that excludes only the effects of the defendant's illegal conduct. The difference between that projected condition and the plaintiff's actual condition (both stated in terms of some standard index, like profits or prices) is the claimed measure of damages. We show that this measure of damages is usually \*427 applied to determine individual net harm from antitrust violations. The plaintiff must deduct any offsetting benefits it received or costs it avoided because of the violation. But the principle of individual net harm, if slavishly followed, would undermine the public goals of antitrust law in some cases by permitting recovery for procompetitive harms or by imposing insurmountable problems of proof. Consequently, the doctrines of antitrust injury and standing adjust the principle of individual net harm, denying recovery for some net harms, and permitting recovery for some gross harms. We suggest that the doctrines reflect a principle net social harm that, in effect, offsets an injury to one actor with benefits to others and adjusts the right to recover accordingly. An important determinant of net social harm, particularly in the doctrine of standing, is whether the damages asserted are speculative. [FN11]

We then describe the mechanism of proof, emphasizing its dependency upon both economic theory and a sufficient evidentiary foundation. The plaintiff must project what its performance would have been in the damage period but for the violation from a base experience unaffected by the violation. Our central conclusion is that a projection is "speculative" if it fails to account rationally for factors other than the defendant's illegal conduct that may have caused (or significantly contributed to) the asserted difference between the two conditions. [FN12] The relevant causal factors may be actual or theoretical. The relevant actual causal factors are determined by the evidentiary foundation the plaintiff offers for its projection. In Part IV below, we describe the most common \*428 evidentiary foundations: the plaintiff's own performance before (or after) the illegal conduct or the performance of some "yardstick" firm. General economic conditions and the specific behavior of market participants in the base period must be comparable to those in the damage period. Any differences that would predictably affect the plaintiff's performance must be accounted for and any compensating benefits from the defendant's conduct or the plaintiff's own mitigation efforts must be netted out. In Part V, we discuss the theoretical causal factors for which the plaintiff's projected but-for scenario must account the predictable, lawful profit-maximizing and cost-minimizing responses of all economic actors, including the defendant, to the plaintiff's projected conduct.

#### II. DEFINING THE MEASURE OF HARM

Speculativeness is primarily a deficiency in proof. In the next part, we will examine the evidentiary and theoretical foundations that courts require for proof of antitrust damages. But whether proof is speculative also depends on the law's definition of what is to be proved. Manifestly, some legally defined criteria of harm would be easier to meet, and therefore less likely to result in speculative proof, than others. [FN13] Even under an apparently straightforward standard of individual harm, like the one prescribed in Section 4 of the Clayton Act, there are a host of choices in defining the measure of damages that may raise or reduce problems of proof. In making these choices, courts have sought to define a measure of harm that reflects the social cost of the offense yet is practical for courts to apply. Some rules are designed to assure that the measure of damages reflects the net individual harm

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to the plaintiff. Courts have also formulated the doctrines of antitrust injury and standing, which qualify the standard of individual net harm in favor of a standard of net social harm. Economic theory guides the determination of both sorts of harm.

A. Net Individual Harm: Benefits and Avoided Costs

Economic theory teaches that antitrust violations involve a multitude of consequences for actors in the market, some harmful and some \*429 beneficial. The same actor may suffer lost revenues but avoid certain associated costs; it may lose one valuable opportunity but gain another; or it may suffer increased costs that are partially compensated by increased revenues. Consequently, the courts have developed a number of rules aimed at assuring that the definition of the plaintiff's actual and but-for conditions actually reflect the net harm to the plaintiff from the antitrust violation. [FN14] These rules, while necessary to an economically rational definition of harm, can significantly increase the plaintiff's problems of proof.

Whatever the plaintiff's suggested index of harm--profits, costs, going concern value, or prices--the measure of antitrust damages is the difference between its actual condition and its "but-for" condition. The actual condition is the plaintiff's situation given that the violation has occurred; the but-for condition is the plaintiff's situation in a hypothetical world in which the violation has not occurred, but conditions are otherwise the same. [FN15] "Lost profits," for example, means the difference between the firm's actual profits during the damage period and the profits it would have earned but for the illegal conduct. The "overcharge" means the difference between the price actually paid and the price that would have been paid but for the violation.

The principle of individual net harm guides the definition of the plaintiff's actual and but-for conditions. The principle requires, for example, that the plaintiff include in its actual condition any benefits that \*430 it received from participation in an illegal transaction. When an illegal practice harms the plaintiff in one way but benefits the plaintiff in another, the two effects must be offset. [FN16] Theory predicts, for example, that the seller of two products used in fixed proportions will be able to charge only a single price for the package; even a monopolist of one of the products will only be able to increase the price of one of the products by reducing the price of the other. [FN17] Thus, if a tying arrangement increases the price of the tied product to the plaintiff, but reduces the price of the tying product, the plaintiff is harmed only to the extent that the amount of the increase exceeds the amount of the reduction. [FN18]

The law also requires the plaintiff, in calculating its but-for condition, to deduct any costs that it avoided as a result of being illegally excluded from a profitable opportunity. The most obvious expression of this point is the rule that the plaintiff is entitled only to its lost net profits, not gross profits. The plaintiff is thus required to deduct from its projected lost profits the ordinary costs it would have incurred in making those profits. [FN19] The plaintiff loses the anticipated revenues, but it avoids the costs it would have incurred in making those sales. Similarly, if participating in an illegal transaction with the defendant allows the plaintiff to avoid expenses it would have incurred in lawful transactions, those saved expenses should be deducted from the damage award.

\*431 As an example of this last point, consider the case of a monopolist that illegally adopts a lease-only policy. [FN20] In Hanover Shoe, the Supreme Court held that in such a case, the lessee was entitled to the difference between the lease price and the hypothetical sale price of the product. [FN21] This requirement imposes a significant burden on the plaintiff. Theory suggests that the lessee will only pay a lease price that reflects the present value of the costs of owning the machine over its useful life, including the costs of capital, the costs of maintenance, and the product's salvage value. Thus, the lease functions in essentially the same way as a purchase that is financed over a term equal to the length of the lease. A plaintiff would have to net out these compensating benefits in order to show harm and, as a first approximation, the amounts would be equal. There would be provable

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damages only if the lease is demonstrably an exclusionary practice, measured by the increased overcharge attributable to the enhanced monopoly power. [FN22]

If a plaintiff who is illegally foreclosed from one profitable opportunity uses its resources to pursue the next-best alternative, its calculation of its actual condition must net out the compensating gains. [FN23] Indeed, because the plaintiff is required to take reasonable steps to mitigate damages, a court may make such a deduction even if the plaintiff does not actually pursue the alternative opportunity. [FN24] When a plaintiff is illegally excluded from one opportunity, its harm is the expected value of that opportunity. [FN25] Any valuation of that opportunity must take account of costs the plaintiff would have incurred in pursuing it, including the cost of giving up the next-best alternative open to the \*432 plaintiff. [FN26] If an excluded plaintiff unreasonably fails to pursue the next-best opportunity, then the plaintiff's own actions, not the defendant's illegal conduct, are responsible for that loss.

# B. Net Social Harm: Antitrust Injury and Standing

An exclusive focus on individual net harm would, in some instances, conflict with antitrust policy. The antitrust remedy should be tailored to its social purpose by assuring first that the remedy does not foster anticompetitive ends and second that the most efficient plaintiff brings suit. [FN27] Courts have therefore qualified the principle of individual net harm by applying the doctrines of antitrust injury and standing. [FN28] Both qualifications recognize that net individual harm must in certain cases be subordinated to net social harm in the calculation of a deterrent

The first difficulty the individual net harm standard poses is that, in some instances, practices that nominally violate antitrust rules may cause a net harm to a particular firm but nevertheless result in a net social benefit by enhancing efficiency. [FN29] Maximum price-fixing, for example, is per se illegal and may injure competitors of the conspirators by \*433 lowering prices to consumers. [FN30] The antitrust injury doctrine addresses this concern, denying recovery to certain plaintiffs who have suffered a net individual harm if their harm is not the result of the anticompetitive aspect of the alleged violation. [FN31] In the case of vertical maximum price-fixing. the Supreme Court has held that the competitors may not sue for their harm unless the prices illegally fixed are predatory. [FN32]

We have argued elsewhere that the antitrust injury doctrine is based on a principle (however inchoate) of optimal damages-damages must be rationally related to the inefficiency that the alleged monopolistic practice creates. [FN33] Antitrust injury is thus a means of linking the damage remedy for individual harm to the public goals of antitrust law. It qualifies the standard of individual net harm in the interest of a larger principle of net social harm. [FN34] Competitors may suffer a net individual harm from the procompetitive aspect of an antitrust violation, but that harm is offset by the simultaneous benefits to consumers. In the case of maximum price-fixing, the harm to the competitors from lower prices is more than offset by the benefit to consumers from the same prices. [FN35]

The individual net-harm standard raises a second concern for antitrust policy. In some cases the standard can raise so many problems of proof that the direct costs of proof and the risk of error become unacceptably large. In such instances, rigid adherence to the net-harm standard would require either denying recovery entirely or accepting an arbitrary damage award. Neither result would be consistent with antitrust policy. Thus, in certain cases, the courts have altered the definition of harm or who may sue. Overcharge damages, for example, were recognized by the Supreme \*434 Court primarily because of the difficulty of proving lost profits in price-fixing cases. Rather than require the complex netting associated with lost profits, and thus practically deny recovery, the Court permitted plaintiffs to prove damages by showing a price enhancement. [FN36]

Problems of proof also arise in cases claiming damages for remote consequences of antitrust violations. Antitrust

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standing doctrine therefore denies recovery to those whose harms are too remote for practical proof. [FN37] The goal of the doctrine is to assign the right to sue for antitrust injury to the most efficient plaintiff. [FN38] Those who suffer indirect or derivative harm may be denied standing, because others more directly affected are in a better position to sue.

The clearest example of such a comparative inquiry involves the allocation of overcharge damages, which are themselves a qualification of the principle of net harm. In Illinois Brick, the Court denied indirect purchasers from price-fixers the right to sue for their actual damages, even though the direct purchasers may have passed on much of the overcharge to others. [FN39] Instead, the Court assigned the full right to recover to the direct purchasers, who are not required to net out the amount of the overcharge that they passed on. [FN40] In effect, the netting process occurs between the two classes of potential plaintiffs who suffered actual harm. The standard of individual net harm yields to a standard of net social harm in order to accommodate the limitations of the legal system. The problems of proof in allocating the overcharge among direct and indirect purchasers would be so great that it would undermine the system of private enforcement.

The notion of speculativeness plays a crucial role in the law of standing because the most efficient plaintiff is likely to be the one whose damages are least speculative. As we will see, proof of damages is speculative if it fails to account for factors that may have caused the \*435 plaintiff's harm. Rules of standing involve categorical determinations that certain types of harms are speculative. Proof of damages becomes more speculative as the list of causal factors that may have contributed to the plaintiff's harm grows. Given the various netting requirements that the law imposes, those plaintiffs who are more remotely affected will necessarily face more difficult problems of proof. At some point, a court can say as a matter of law that the number of potential causal factors that the plaintiff would have to account for is so great that the damages claimed are inherently speculative. In such instances, the courts may deny standing to one class and adjust the definition of harm to ease the burden of proof on another class.

# III. FORMULATING THE DAMAGE MODEL

Netting the various consequences of the violation is only one part of the task of proving damages. The plaintiff must also account for the effect of numerous other factors that may have affected its condition. Ideally, the only causal factor accounting for the difference between plaintiff's actual experience in the damage period and its but-for experience should be the defendant's illegal conduct. Proof of the plaintiff's actual condition may be complex, particularly where compensating benefits and mitigation efforts are at issue. But speculativeness becomes an issue primarily in the proof of the plaintiff's but-for condition. Because of the multitude of potential influences on business conditions, a plaintiff cannot prove what would have happened with the same degree of certainty that it can prove what did occur. [FN41] The plaintiff will, of course, be inclined to make optimistic claims about what might have been. But the mere fact that the plaintiff has not done as well as it would have liked, even if its bad fortune coincides with an antitrust violation, is not evidence that the illegal action harmed it. There is no reason to believe, ex ante, that any firm will make a profit. [FN42] The plaintiff must show something specific about its experience that would allow a court to infer that it would have done better had the defendant's illegal action not occurred.

\*436 The plaintiff must thus construct and support a scenario of events in the but-for world in which its condition there, measured by the appropriate standard of harm, is better than its actual condition. The plaintiff must rely on theoretical reasoning to construct its but-for scenario and on quantitative methods and an evidentiary foundation to support it. The plausibility of this scenario depends upon both the sufficiency of the evidentiary foundation and the persuasiveness of the reasoning and quantitative techniques that the plaintiff offers. Courts evaluate these characteristics of the plaintiff's scenario based on a theoretical understanding of the practices at issue and an

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assumption of rational behavior by all market participants.

## A. The Evidentiary Foundation

Plaintiffs typically rely on expert testimony to prove damages, but even an expert may not base his or her opinion on a general knowledge of the industry. [FN43] To establish an evidentiary foundation, the plaintiff must show that something very like its but-for scenario has actually happened to it or to a similar firm under comparable circumstances and would probably have occurred again during the damage period if the defendant had not acted

[A] Ithough the courts are not strict about the kind of foundations or theories which are employed so long as it is credible and substantial . . . some such foundation must be shown. It will not be rejected where there is some prior experience with which to make a comparison. With such evidentiary foundation there can be a projection; where, on the other hand, the profits are mere possibilities and are too far removed from reality, they must be held unacceptable. [FN44]

The thinking here is that one can infer harm based on a comparison of the plaintiff's performance in the damage period with its (or a similar firm's) performance at another time and place unaffected by the illegal conduct. If circumstances in the two periods are otherwise comparable, then the court will infer that, had defendant's illegal conduct not occurred, the plaintiff would have matched the performance of the base period.

\*437 This process of proof involves two related comparisons. First, the plaintiff establishes the evidentiary foundation by comparing its actual experience in the damage period with the experience in a foundation or base period in which the defendant's illegal conduct did not affect the market. This foundation provides the basis for projecting the plaintiff's but-for experience. Second, the measure of damages is determined by comparing the plaintiff's but-for experience with its actual experience in the damage period. The following diagram illustrates the process:

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To construct a but-for scenario in which the consequences of the defendant's illegal conduct (and nothing else) are deleted, the plaintiff must establish an evidentiary foundation showing that the plaintiff could have been more successful in a world where the defendant had not violated the antitrust laws. The plaintiff typically must show that something like its but-for scenario has occurred in the base period. Causal factors in the base period other than the illegal conduct must be reasonably comparable to those in the damage period. If such a base period can be shown, then a projection to establish the but-for scenario is possible using various theoretical and quantitative methods. Inevitably, \*438 there will be differences between the periods for which the plaintiff must account in its proof and in its narrative of events in the but-for world. Once the but-for condition is shown, the calculation of damages is simply a matter of subtracting the measure of the plaintiff's actual condition from the measure of its but-for condition.

# B. The Role of Economic Theory

In constructing a but-for scenario, the plaintiff must offer a theoretical account, based on the evidentiary foundation, to support its argument that it would have done measurably better in the absence of the defendant's illegal conduct. Even when there is evidence that the plaintiff earned profits in an earlier period, which declined coincidentally with the defendant's illegal actions, the plaintiff must somehow avoid the competing inference that

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unrelated causal factors during the damage period caused its decline. In doing so, the plaintiff must rely on a theoretical model of the illegal practice. The model's assumptions and causal implications will provide the basis for both the measure of damages and the projection of the plaintiff's but-for experience.

Courts evaluate evidence in light of their preconceptions about the likelihood of the alleged conduct. They will be more favorably disposed toward a party's case if the party alleges that firms behaved, or will behave, in line with judicial preconceptions. The Supreme Court in Zenith acknowledged the significance of judicial preconceptions by stating that a plaintiff can rely on "just and reasonable inference from the proof of defendants' wrongful acts and their tendency to injure plaintiff's business and from the evidence of the decline in prices, profits and values, not shown to be attributable to other causes." [FN45] Proof of the violation and a decline in the plaintiff's fortunes may be enough to isolate the violation as the critical causal factor where the perceived "tendency" of the violation is to harm someone in the plaintiff's position. In antitrust cases, particularly in recent years, economic theory deeply influences the courts' perceptions of these tendencies. If the plaintiff is alleging the sort of harm that the applicable model leads the court to expect, the plaintiff is more likely to make a persuasive showing that its good fortunes would have continued absent the defendant's illegal conduct. [FN46]

\*439 To construct a plausible scenario of how the defendant and others would have acted in the but-for world, the plaintiff must again rely on economic theory to predict behavior. The damage model will certainly be undermined if it assumes that actors will not act rationally to pursue their self-interest. As one court put it, "[i]n a hypothetical economic construction, . . . economic rationality must be assumed for all competitors, absent the strongest evidence of chronic irrationality." [FN47] Thus, the model may not assume that firms would not maximize profits or minimize costs in response to the plaintiff's competitive conduct in the but-for world. [FN48]

Economic theory may show the plaintiff's alleged scenario to be impossible. For example, theory teaches that when a cartel increases its prices, nonconspiring competitors benefit by selling larger quantities at the higher prices. [FN49] Consequently, these firms cannot sue for damages from minimum price fixing by their competitors because no economic theory can support proof of harm. [FN50] Theory can also raise the possibility \*440 that the plaintiff suffered no net harm. The example given in the last section of tying of products used in fixed proportions is pertinent here. If the defendant induced the plaintiff to pay the overcharge on the tied product by reducing the price of the tying product, the overcharge is not an accurate measure of the plaintiff's harm. Consequently, courts require that the plaintiff prove an overcharge on the sum of the prices of the tying and tied products. Finally, economic theory can identify instances in which the plaintiff may have received offsetting benefits by its efforts to mitigate damages. Thus, even if the defendant's conduct harmed the plaintiff initially, if the plaintiff found alternative uses for its resources or otherwise mitigated its damages, those compensating benefits must be netted out of any damage award. [FN51]

The model of the practice in issue may also affect the standard of proof that the plaintiff must meet to prove that the practice accounts for its decline. In general, scenarios based on more determinate models are less likely to be viewed as speculative. The Supreme Court has held that when a plaintiff alleges an offense that is not a plausible means of gaining monopoly profits, the plaintiff, to avoid summary judgment, must offer better-than-usual proof that the offense actually occurred. [FN52] Similarly, if the plaintiff is alleging an offense that does not predictably cause the sort of harm the plaintiff alleges, then the plaintiff will have to do more to prove that it was actually harmed, and by how much. By the same token, if the plaintiff is alleging a practice that would very likely harm an actor in the plaintiff's position, proof of the violation almost by itself proves the fact of injury. [FN53] In situations in which the fact of \*441 damage is particularly obvious on theoretical grounds, courts often emphasize the leniency of the plaintiff's burden in proving the amount of damage.

Very often the persuasiveness of the plaintiff's scenario is related to the number of economic actors that the model

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must accommodate. Economic theory does not predict human conduct with the same certainty that physics can predict the movement of physical objects. [FN54] Changing prices and terms of exchange can only change incentives, not compel action. The more links in an alleged chain of human causation, the more likely the court is to conclude that the illegal conduct cannot be isolated as a cause. When the plaintiff is alleging that the defendant wrongfully terminated it as a dealer, a decline in sales immediately following the termination may be enough to show the fact of injury. [FN55] But if the plaintiff is alleging that the defendant induced third parties to stop dealing with it, the plaintiff will have more difficulty proving causation. An example is a case in which the plaintiff claimed that the defendant's change in its warranty policy to its customers cost the plaintiff sales. The court found that the plaintiff had not supported the inference that the defendant's action significantly influenced purchasers in their choice of product. [FN56] Reduced warranty terms will certainly tend, ceteris paribus, to make a product less attractive to a consumer; but ceteris paribus is less likely to be assumed as the number of potential causal factors increases.

This is not to say that indirect effects will never be provable. Suppose, for example, that a group of firms conspires to increase prices and a nonconspiring competitor of those firms increases its price to match theirs. Purchasers from the nonconspiring firm suffer the same overcharge as purchasers from the conspirators [FN57] and therefore should be \*442 permitted to sue the conspirators for the overcharge. Some courts have suggested, however, that the effect on those who purchase from nonconspirators is too speculative to justify granting them standing to sue the conspirators for the overcharge. [FN58] But what we have said about the inferential value of the theoretical tendency of an alleged practice contradicts this conclusion. Economic theory shows that a rational fringe competitor will match the price increase of a dominant firm (or cartel) in its market; if it did not do so, it would fail to maximize its profits. Consequently, if purchasers from the nonconspiring firm can prove that their supplier increased its price to match the illegally fixed price of the defendants, they should recover.

Recall, however, that the Supreme Court in Zenith qualified its acceptance of "tendencies" by a requirement that the harm is "not shown to be attributable to other causes." [FN59] No matter how strong the theoretical tendency of the defendant's illegal conduct to harm someone in the plaintiff's position, a damage model may be undermined by actual differences between events in the base period and the damage period that would predictably have affected its condition. As the Court's phrase "not shown to be attributable to other causes" implies, the obligation to identify the other causes will shift to the defendant if the plaintiff makes a plausible prima facie case. Theory also guides the determination of which causal factors could have affected the plaintiff's performance in the damage period. Possible causal factors include changes in general supply or demand conditions, changes in prices of substitute or complementary goods, the specific conduct of the plaintiff and defendant, entry of new rivals, product innovation, changes in government policies, and acts of God.

## \*443 IV. PROVING A COMPARABLE PRIOR EXPERIENCE

Proof of what would have happened in the but-for world must rest on an evidentiary foundation showing some comparable experience at a time and place when the illegal activity did not influence the market. The courts have recognized two principal approaches to proving a comparable base period: the "before-and-after" and "yardstick" methods. [FN60]

# A. The "Before-and-After" Approach

The plaintiff will normally attempt to prove causation by showing that it was flourishing until the defendant acted illegally. This so-called before-and-after method of proof is the prototype for proof of damages. [FN61] The plaintiff must normally show, with appropriate business records, [FN62] how it actually performed when it was not burdened by the defendant's illegal actions and when other relevant circumstances were comparable to those in the

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damage period. In Eastman Kodak Co. v. Southern Photo \*444 Materials Co., [FN63] the plaintiff proved its gross profits in the four years prior to the defendant's monopolistic refusal to deal, then claimed as damages the same amount for the four-year damage period less the estimated costs it would have incurred in buying and selling the defendant's products. The Supreme Court approved the damage award as a "just and reasonable inference," [FN64] despite the defendant's contention that the two periods were not comparable and that the plaintiff would not have been able to sell as much in the damage period as it had sold previously.

When the plaintiff uses the before-and-after approach, the issue of speculativeness depends first and foremost upon whether potentially causal conditions in the base period are comparable to those in the damage period. [FN65] Where the circumstances are not comparable, the inference that the defendant's illegal conduct accounts for the difference in the plaintiff's fortunes does not hold. The difficulty, of course, is that in any market, circumstances are in constant flux; it will never be possible to prove that all circumstances are the same in any two periods. The courts, however, do not require identical conditions, [FN66] but conditions that are comparable in relevant respects. What is relevant depends, in turn, upon the court's theoretical understanding of market relationships and the "tendencies" of the practice at issue. This theoretical understanding provides the court with a picture of how things usually occur, given the existence of certain conditions; the evidentiary foundation then demonstrates the existence of those conditions for the particular case.

## 1. Reliability of the Plaintiff's Performance in the Base Period as a Predictor

There must be a basis in the record for an inference that the plaintiff's performance in the base period would have been replicated in the damage period but for the violation. One factor that affects the strength of such an inference is the length of the base period. The shorter the \*445 plaintiff's track record of profitability, the less plausible is the inference that its good fortunes would have continued. Courts normally require a showing that, prior to the illegal activity, the plaintiff "had been selling the same product, quite often in the same geographical market, with substantial success for a significant period of time." [FN67] If the plaintiff proves it has performed at a certain level for a significant time shortly before the damage period, the court may infer that the various factors affecting the firm's performance, especially those internal to the firm, are relatively constant, and therefore essentially the same during both periods. A very brief period of profitability is more likely to be an aberration and thus less likely to support an inference that the plaintiff's decline is the result of the violation. In Southern Photo, the base period was four years, but courts regularly uphold the use of periods of several months. [FN68] One court even accepted a single month. [FN69]

Even if the base period is long enough to permit the necessary inference, it must also be typical of the plaintiff's experience in the full range of times unaffected by illegal activity. If the plaintiff's performance in the asserted base period was not typical of its performance in other comparable periods, we cannot infer that the plaintiff would have done as well in the damage period but for the illegal conduct. If, for example, the plaintiff suffered losses in most years, but was successful in others, it may not select an unusually profitable year as \*446 a base period [FN70] unless the losses in the unprofitable years were the result of abnormal events. [FN71] Similarly, if the plaintiff's profits declined and actually became losses after the test period but before the illegal conduct, one could not infer that the termination caused the plaintiff's demise. [FN72]

# 2. Accounting for Other Causal Factors in the Damage Period

Even if the plaintiff's performance in the base period was typical and substantial, the but-for scenario may not hold if causal factors other than the illegal conduct in the base period were significantly different from those in the damage period. [FN73] As one court wrote,

Although [the plaintiff] Isaksen may well have suffered losses during the period of Vermont Castings' unlawful

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activity, he made no effort to establish how much of the loss was due to that activity as distinct from unrelated business factors. The most important \*447 such factor was the diminished demand for woodburning stoves. Not only had the market for such stoves become saturated, but oil prices had begun to fall, making wood a less attractive fuel for heating, relative to oil, than it had been before. All Isaksen did to prove damages was to compare his average profits for several years before and several years during the period of unlawful activity. Post hoc ergo propter hoc is not a valid methodology of damage calculation, especially where it is apparent that other causal factors are at work. [FN74]

The list of potential causal factors is virtually unlimited, but they can be grouped into three categories: general market conditions, the conduct of the plaintiff, and the conduct of the defendant. General market conditions may differ if, for example, the base period was in wartime, if price controls were in effect, [FN75] or if the market was unusually noncompetitive. [FN76] They may also differ if the damage period coincided with a recession; [FN77] if input prices increased during that period; [FN78] if an unrelated cartel increased the price of a substitute for the defendant's product; [FN79] or if consumers' tastes changed, as in Isaksen. In such cases, one cannot infer that the plaintiff's performance in the base period would have been replicated in the damage period but for the defendant's conduct, unless the damage model accounts for the effects of the differences in market conditions. [FN80]

\*448 The plaintiff's own conduct in the damage period may also undermine an inference that the defendant's conduct caused its harm. If the plaintiff made poor management decisions in the damage period that would have affected it adversely regardless of defendant's illegal conduct, the damage proof must account for the effects of those decisions. [FN81]

If a number of the defendant's acts allegedly harmed the plaintiff, and only some of them are found illegal, a damage theory must be capable of distinguishing the lawful competitive harm from the unlawful. [FN82] Likewise. if some of the defendant's conduct was immune from antitrust attack, it cannot form the basis for damages. [FN83] Since the defendant's lawful conduct cannot properly be excluded from the but-for world, it must be accounted for in the damage model. [FN84]

\*449 When a plaintiff improperly attributes all losses to a defendant's illegal acts, despite the presence of significant other factors, the evidence does not permit a jury to make a reasonable and principled estimate of the amount of damage. . . . To allow otherwise would force a defendant to pay treble damages for conduct that was determined to be entirely lawful. [FN85]

In one case, the plaintiff claimed that the defendant railroad had offered a combination of rail and truck transportation, in the process conspiring with shipping agents to violate established Interstate Commerce Commission tariffs by offering illegally low prices. [FN86] The court in that case found that the plaintiff had proved an antitrust violation and injury in fact. The plaintiff failed, however, to prove the amount of injury because it did not show the amount of its sales that would have been diverted to the defendant by lawful competition under its combination shipping plan. [FN87] The court concluded that " i n the absence \*450 of any guidance in the record, we cannot permit a jury to speculate concerning the amount of losses resulting from unlawful, as opposed to lawful, competition." [FN88]

In some instances, however, a court will require the defendant to offer evidence of its procompetitive actions that may account for the plaintiff's harm. If the plaintiff has made an initial showing of harm that properly excludes causes that are "internal to the plaintiff or general to the market," [FN89] the defendant must offer evidence that the harm to the plaintiff was the result of lawful conduct.

[T]he fact that the . . . illegal conspiracy was composed of lawful and unlawful conduct so tightly intertwined as to make it difficult to determine which portion of the damages claimed were caused by the unlawful conduct should not diminish the recovery. Similarly, the Court should recognize that the harmful consequences of certain unlawful

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conduct may have been exacerbated by otherwise lawful conduct. In such a situation, the fact that lawful conduct contributed to additional injury should not prohibit recovery for that injury. [FN90]

If the plaintiff's harm is the result of several actions of the defendant, all of which are illegal, then the plaintiff's burden is lighter:

[a] plaintiff claiming injury caused by more than one of the defendant's unlawful practices need not prove the amount of damage caused by each illegal practice if the plaintiff shows that disaggregation is impracticable. If the plaintiff shows that such proof is impracticable, the burden shifts to the defendant to demonstrate the contrary. [FN91]

# \*451 B. The "Yardstick" Approach

The before-and-after approach to proof of damages is the most common method and provides the prototype for proof of damages. There are alternatives, however, because the plaintiff may have no acceptable track record in a prior period. The plaintiff may have just begun business because different competitive conditions prevailed in all prior periods. [FN92] The plaintiff may avoid these difficulties by the yardstick approach, "linking the plaintiff's experience in a hypothetical free market to the experience of a comparable firm in an actual free market." [FN93] But the plaintiffs construction of its but-for scenario in yardstick cases is more complicated; it must show that it would have done better in the damage period than it had ever done before.

#### 1. The Unestablished Business

The problems of the yardstick approach are most apparent in cases in which the plaintiff alleges that the defendant prevented it from entering the market. [FN94] In such cases, the plaintiff must clear the initial hurdle of demonstrating that it was prepared to enter the market and would have done so but for the illegal conduct: " i ndicia of preparedness include adequate background and experience in the new field, sufficient financial capability to enter it, and the taking of actual and substantial affirmative stops toward entry, "such as the consummation of relevant contracts and procurement of necessary facilities and equipment." [FN95] In many cases this standard will be insurmountable. [FN96] One court rejected a damage \*452 projection when the plaintiff had made only two test sales of the product, had demonstrated no experience in selling the product prior to the illegal action, and provided no evidence that it had experience in selling any similar products which it might rely upon in marketing the new product. [FN97]

Once the unestablished firm has established its ability to enter a market, it must then show the amount of damages, usually lost profits, that it would have suffered. If the firm has an established record of entry in other comparable markets, then its performance in those markets could provide a reasonable vardstick. Otherwise, the plaintiff will be required to find a similar firm to serve as a yardstick. Herbert Hovenkamp contends that

[e]stimation of lost profits in such situations is so speculative that the court's decision can be no more than arbitrary. Ex ante, no one could predict the market share or sales volume that could be attained by a prospective business, and no estimate of future profits can be made without some estimate of volume of sales. [FN98]

Consequently, he suggests that courts should "award precluded entrants their sunk costs [i.e., investment that will not be recovered], plus the fair market value of any contractual obligations which they have already received but will be unable to perform because of the antitrust violations." [FN99] There are substantial difficulties with this measure of harm. All of the lost investments that Hovenkamp mentions would have been made in the absence of the antitrust violation. Thus, they should be compensable only if, but for the violation, the precluded firm would have made enough sales to recover its investments. But, if it is impossible to estimate lost sales volume, as Hovenkamp states, there is no basis for making such an assumption.

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# \*453 2. Accounting for Actual Differences Between Periods, Markets, and Firms

Even if a plaintiff establishes that it was sufficiently prepared to enter the business, it still must provide a basis for a projection of profits in the market. Here, its lack of a track record in the market makes its task more difficult than that of an established firm. Because it is unable to use the prototype before-and-after method of proof, it must typically rely on a yardstick as the foundation for its but-for scenario. The yardstick method faces greater obstacles than the before-and-after method, because it requires the plaintiff to show the comparability of either a different firm from itself, or of a different market from its market, or both. [FN100] In one case, the plaintiff calculated lost going concern value by applying a 1.7% profit margin taken from a survey of baking companies in the Almanac of Business & Industrial Financial Ratios. The plaintiffs experts argued that the plaintiffs real performance (a 0.8% profit margin) in the test year was affected by depressed business conditions. Nevertheless, the court rejected the 1.7% figure because the expert had failed to show that the firms in the survey were comparable to the plaintiff. Consequently, it only permitted damages based upon the 0.8% actual profit margin in the test year. [FN101]

In another case, the plaintiff claimed that its rental referral business in Providence, Rhode Island, was injured by the defendant newspaper's refusal to carry its advertisements. The plaintiff was part of a national chain, and offered as a yardstick the Nashville, Tennessee, office of the same chain. The court found that the plaintiff's market was not comparable to the yardstick's market because of differences in the population, the vacancy rate, and the number of housing and rental units. [FN102] The plaintiff had failed to account for "the impact of industry, \*454 rental patterns, unemployment, summer rentals, and colleges" or the "relative competition in the rental referral industry in each market." [FN103] In addition, the plaintiff failed to show that the yardstick firm was comparable to the plaintiff in "organization and resources" [FN104] and "that the two firms were administered and operated in the same way." [FN105] Proof that the fee charged by the two firms was the same was not enough.

It might seem that a damage calculation would be most acceptable if the yardstick is the plaintiff itself in a comparable market, [FN106] or a comparable firm in the same market as the plaintiff's. [FN107] But even in these kinds of cases, there is fertile ground for challenging the asserted similarity. For example, the plaintiff often may not use a firm in its own market because the financial success of the yardstick would be enhanced by the injury to the plaintiff. Furthermore, the plaintiff's own experience in a different market may not be sufficiently comparable if it involves a significantly different mix of products [FN108] or significantly different customers. [FN109]

#### \*455 V. ACCOUNTING FOR PREDICTABLE MARKET RESPONSES

Even if the plaintiff is able to establish a comparable base period, its projection must still include a plausible scenario of how firms would have responded to its presence in the but-for world. Theory predicts that suppliers, competitors, and purchasers will respond to changes in incentives by maximizing their profits and minimizing costs. The plaintiffs prediction of likely events in the absence of the defendant's illegal conduct must take account of rational, lawful responses of other actors, including the defendant, to the plaintiff's projected market behavior. At the same time, the plaintiff's proof of its actual condition must take account of its opportunities to mitigate the harm from the defendant's conduct.

## A. Lawful Competitive Responses of Defendant and Others

The plaintiff must assume that other market participants will act rationally. As one court put it, the plaintiff [m]ust presume the existence of rational economic behavior in the hypothetical free market. This includes a rational price differential between [the plaintiff's] prices and defendants' prices based on all competitors attempts to maximize their own profits . . . and the potential entry of other competitors into the market. [FN110]

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The assumption of rational economic behavior thus applies to all actors in the market whose conduct would affect the plaintiff's projected condition. The plaintiff may not, for example, assume that it could raise prices and maintain the same sales volume, because the law of demand strongly suggests that consumers will buy less of anything if the price increases. [FN111] Similarly, the plaintiff may not assume that it would have \*456 been able to maintain high prices in the market without provoking price cuts by the defendant and other competitors, [FN112] As one court noted, " a reasonable jury could not . . . indulge in the assumption that a competitor would follow a course of behavior other than that which it believed would maximize its profits." [FN113] Consequently, the defendant need not introduce evidence that it would have reduced prices; it is enough that it would have been rational to do so. [FN114] On the other hand, the requirement that the plaintiff take account of anticipated competitive responses does not require a detailed evidentiary basis. It appears to be enough that the plaintiff make a reasonable assumption about the effects of competition on the plaintiff's profitability. [FN115]

Related to these points is the possibility of mitigation efforts by the plaintiff. If the plaintiff could have reduced its harm by alternative uses of its resources, the damage model must take those opportunities into account. [FN116] In effect, the plaintiff's actual condition must be adjusted for \*457 rational mitigation efforts before it is compared with the but-for condition.

# B. Growth During the Damage Period

The problem of accounting for competitive responses is related to the problem of assuming a growth rate for the future. Courts regularly reject such predictions as unjustified where the growth rate seems arbitrarily chosen. [FN117] Consider a particularly clear instance of such arbitrariness:

To forecast sales through 1987, William McGlinchy [the plaintiff, who was treated as an expert] said that he "took the 838,000 pounds for 1982 actual sales and applied the 41 percent [compound annual] growth figure." He asserted that he based the 41 percent growth rate on local economic data, country by country in Southeast Asia, dating from the 1970's. Yet William McGlinchy later acknowledged that in fact he first divined a total sales figure for 1987, then plugged in a compound growth rate--41 percent--that would work backward to the 1982 actual sales figure. Although the study stated that companies he had been associated with had enjoyed growth rates of 41 percent and 83 percent, the study gave no indication of how he estimated a total sales figure for 1987. Lacking any sound foundation, the study would mislead a jury into believing that damages had grown exponentially over the relevant period. [FN118]

Plaintiffs often contend that, because their sales were increasing at some rate before the defendant's illegal action, the same rate would continue indefinitely. But projection of an unbounded continuation of a prior growth rate ignores the responses of other firms as well as limitations on efficient scale of operations. [FN119] Thus, if the plaintiff is to \*458 support an inference of continued growth, it must take account of maximizing responses and scale economies. [FN120] In addition, one must consider the limits of the size of the market. [FN121]

## C. The Duration of the Damage Period

The need to account for likely competitive responses (and mitigation efforts) also affects the duration of the damage period. When plaintiffs have been excluded from the market or denied a source of supply, they sometimes claim damage periods that extend many years into the future. Because a business has no natural life, the effects of permanent economic impairment may persist for many years. On the other hand, new products, new technology, new entry, changed business conditions, \*459 population changes, and so on may overwhelm the lingering effects of an antitrust violation. Of course, if the claimed damage period is arbitrarily long, courts will find the claim speculative. [FN122] Likewise, entirely unsupported assertions about conditions far in the future will doom a damage theory. [FN123]

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The question is how to remove the arbitrariness. Courts have sometimes taken a plaintiff's managers' life expectancy as relevant to the duration of future damages. [FN124] But this approach ignores a host of factors, including competitive responses, and possible mitigation by the plaintiff that could attenuate the consequences of any antitrust violation. As one court observed, antitrust harm is not like a personal injury that results in a permanent disability. [FN125] Courts will also sometimes find appropriate points at which to cut off the damage period based upon when the illegal conduct ends (for example by injunction), [FN126] or its effects are clearly superseded by other events (for example, when the defendant could lawfully have terminated its relationship with the plaintiff at a certain time). [FN127] Perhaps the most important constraint on \*460 the duration of the damage period is the required assumption of rational economic behavior. If the plaintiff's damage theory assumes rates of return that far exceed normal rates and fails to account for probable entry by new firms, the theory will likely be rejected. [FN128]

An alternative to proof of a lost stream of future profits is to prove a reduction in the value of the plaintiff's business. [FN129] This approach accepts the market's assessment of the consequences of the illegal conduct, reflected in the price at which the plaintiff's stock is traded. If the plaintiff corporation's stock is not publicly traded, expert testimony can establish the value of the business. In many ways, this approach simplifies the various factors affecting speculativeness, such as mitigation and the effect of future competition, by its assumption that the value of the business accounts for those factors. [FN130] The plaintiff is not, however, limited to the going-concern value of the business at the time of the injury if subsequent experience shows the actual gains to be greater. [FN131]

\*461 The plaintiff may recover its lost past profits plus the going concern value of the company if the evidence on which it can base an assessment of the value is still available. [FN132] Of course, the plaintiff may not recover both the going-concern value of the business and lost profits after the point of valuation; nor may it recover damages for lost profits after it sold its income-producing assets without deducting from the award the amount received from the sale. [FN133]

#### D. Alternative Scenarios

In most instances, the plaintiff cannot predict competitive responses with certainty. Courts nevertheless often accept damage theories that take account of competitive responses of others explicitly, even if the estimated magnitude of the responses is virtually arbitrary. In such cases, the plaintiff typically will offer several scenarios on differing assumptions, and leave the choice of the appropriate scenario to the jury. [FN134] Such an approach makes the jury's choice of a "conservative" scenario apparently reasonable, despite the inherent arbitrariness of the values chosen. [FN135]

\*462 In one case, the plaintiff's economist projected the plaintiff's lost profits to the year 2019, providing five possible scenarios showing differing degrees of market success. [FN136] Case one calculated lost profits of \$5,659,618 on the assumption that the plaintiff would have been the sole distributor to the principal buyer. Case two calculated lost profits of \$3,371,865 using a ten percent sale price discount to account for competition by other suppliers. Case three calculated lost profits of \$3,177,181, making a different competition adjustment by assuming that the plaintiff would continue to charge the full retail price with a fifty percent reduction in sales. Case four calculated lost profits of \$2,033,295, making both of the competition adjustments in cases two and three. Case five calculated lost profits of \$1,468,355 by assuming both competition adjustments, but making a greater than ten percent price reduction. [FN137]

The plaintiff also introduced evidence showing the plaintiff's prior success as a distributor; its long-term association with the principal buyer and other customers; its ability to compete in price and special delivery